

Chapter Connection

12th Issue - October 2010

Chapter Board 2010-2011 - Dr I. Swaminathan, A/Prof Cheah Wei Keat, Dr Chia Kok Hoong, Dr Vijayan Appasamy, Dr Chan Hsiang Sui, A/Prof Pierce Chow, Dr Foo Chek Siang, A/Prof Jimmy So and Dr Tan Kok Yang

Chapter Connection is a newsletter specially brought to you by the Chapter of General Surgeons under the purview of the College of Surgeons, Singapore. The Board of the Chapter of General Surgeons is well represented with members from different institutions and this would mean that you could find the latest happenings of the general surgery community of these institutions in this newsletter. This newsletter is published quarterly and will be distributed to the Members of the Chapter of General Surgeons. On the goodwill of the Chapter Board, this quarterly newsletter will also be distributed at no cost to the Trainees and Fellows of General Surgery in various public hospitals.

Message from Chapter Chairman

Dear surgical colleagues,

This issue of the Chapter newsletter is significant, as it will be the last time it is published in print form. The next edition, from January next year, will be in the form of an E-newsletter. On behalf of all members, I would like to acknowledge with gratitude the funding support provided by our parent body, the College of Surgeons, Singapore. It is now time to be self-sufficient!

That is not a bad thing altogether, for now we do not have to restrict ourselves to four pages to stay within budget. In fact, we can publish much more content. I look forward to contributions from all our members, from all sectors, private and public, so as to make our newsletter the preferred medium of information on the surgical community. I am confident we can.

To this end, I appeal to all institutions to provide us with anecdotes, scientific articles, snippets, information on promotions, staffing changes and events in your surgical calendar. Help us make our newsletter even more vibrant and reflective of our specialty.

Warm regards,

Dr Swaminathan I.

**Chairman, Chapter of General Surgeons
College of Surgeons, Singapore**



**Wishing everyone
Happy Holidays on:**

**5 Nov 2010 (Fri) – Deepavali
17 Nov 2010 (Wed) – Hari Raya Haji
25 Dec 2010 (Sat) – Christmas Day**



News/Articles Contribution & Enquiries:

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**Contribution of any interesting news & articles from Chapter
Members are welcome for consideration to publish in
*Chapter Connection.***

LATEST NEWS!!

We are pleased to inform that Drs Ho Choon Kiat, Liau Kui Hin and Lim Khong Hee will be leaving Tan Tock Seng Hospital for private practice with effect from 1 November 2010 as follow:

Nexus Surgical Associates Pte Ltd
3 Mount Elizabeth, #08-06 Mount Elizabeth
Medical Centre, Singapore 228510

**NEWS
FLASH!**

From Print to Electronic for Chapter Newsletter

Since the inaugural issue of the "Chapter Connection", a quarterly newsletter by the Chapter of General Surgeons that aims to serve as a communication tool to foster connectivity amongst Chapter members, as well as, serving as a medium for information and academic sharing, this newsletter has now grown to 3 years old with the publication of this 12th issue.

In view of supporting an environmental-friendly approach and in consideration of the increasing printing cost, the Chapter Board 2010-2011 had decided to transform the newsletter to an electronic version for cost-effectiveness and speedy dissemination.

The 12th issue shall be the last printed copy. With effect from January 2011 (13th issue), the "Chapter Connection" will be sent via email to all Chapter Members and it is also accessible at the College of Surgeons website at www.css.edu.sg under "Specialty Chapters" - "Chapter of General Surgeons".

The Chapter Board sincerely thank all members for your contributions and look forward to your continued support to the Chapter and this newsletter. Please do update us at css@ams.edu.sg if there is any change with your email address so that we can stay in touch and for the E-newsletter to reach you!

3rd Exit Examination Preparatory Course – 29 June to 3 July 2010

The 3rd Exit Examination Preparatory Course was successfully organised and conducted from 29 June to 3 July 2010, which saw the participation of 8 Advanced Surgical Trainees (ASTs) at the course. The Chapter would like to give its appreciation to the appointed teaching faculty and the continuous support of the hosting institutions - Alexandra Hospital, National University Hospital, Singapore General Hospital and Tan Tock Seng Hospital. The Chapter is honoured to have maintained good feedback for the past 3 preparatory courses where participants were requested to complete a "Feedback Form" at the end of the course.

In conjunction with the preparatory course, an informal dinner was also organised to serve as a platform for the course faculty and the ASTs, as well as, members from the Chapter of General Surgeons to gather together for a social networking evening. It was our intention to offer a totally new concept for the informal dinner to be held alfresco-style but due to wet weather, the original plan was unable to be fulfilled and instead, the dinner was moved indoors where tables were decorated alike to dinner tables in a café. Tokens of appreciation were also given out to the course faculty members and organising committee members.

The Chapter looks forward to the organising of the 4th preparatory course and will continue to pivot itself to pursue the objectives of the College of Surgeons in training and education.



Trainees with the Trauma Lecturers – Dr Chiu Ming Terk [3rd from left] and Dr Vijayan Appasamy (also course convener – 6th from left)

More event photos
can be viewed at
the College of
Surgeons' website
at www.css.edu.sg
under
"Photo Gallery".



A toast wishing all ASTs can pass their exit exams with flying colors

Intestinal Bezoars

Co-Authored by: Sam SY Yang and Tan Kok Yang

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INTRODUCTION

Phytobezoars, composed of largely vegetable matter and fruit fibers, are the most common form of bezoars. Citrus fruit and persimmons are among the usual suspects¹. Other types of bezoar include trichobezoars (hair) and pharmacobezoars (ingested medicine). These foreign ingested materials grow by repeated ingestion and accumulation, especially in the stomach.

Inadvertently, these large balls of foreign materials progress through the digestive system and get impacted at a narrow part of the small intestine; the jejunum or the terminal ileum. As a result, intestinal obstruction forming 4% of all causes of small bowel obstruction².

This paper reviews the experience at our center. It aims to identify risk factors for small bowel obstruction secondary to phytobezoar. Minimally invasive techniques have been used for this condition³. We also review our management with minimally invasive techniques.

METHODS AND RESULTS

This study was a retrospective review. Between March 2003 and April 2009, ten patients were diagnosed with small bowel obstruction secondary to bezoars, whilst another eleven had bezoars incidentally diagnosed on endoscopy.

Sixteen (76.2%) were males and the other 5 (23.8%) females. The age ranged from 37 years to 85 years old. Ten patients had a previous abdominal surgery with 9 being gastric surgery. The other one was an open cholecystectomy for perforated gallbladder.

Thirteen patients have an incomplete set of teeth, 5 of whom are edentulous, resulting in inadequate chewing of foods before swallowing. Fifteen patients consumed a very high fiber diet, taking 2 or more servings of foods rich in fiber (citrus fruits and stringy vegetables) every day. [Table 1]

CT was performed in 2 patients admitted for intestinal obstruction preoperatively. Both demonstrated hypodense intraluminal filling defects with mottled gas pattern in the small bowel highly suggestive of a bezoar. [Figure 1]

The ten cases that presented with small bowel intestinal obstruction required surgical intervention. Eight cases underwent midline laparotomy. An enterotomy was used to remove the bezoar in 6 cases. In the other 2 cases, finger fracture of the bezoar was performed and the fragments milked to the caecum. One of these cases had an additional gastrotomy to remove a gastric bezoar found intra-operatively.

More recently, we performed 2 laparoscopy assisted cases. A 3 port technique was used. The small bowel was followed laparoscopically from the ileocaecal junction to the point of impaction. The small bowel was then controlled proximal to the bezoar so as not to allow proximal slippage of the bezoar. This segment of bowel was then delivered via a small transverse incision and the bezoar extracted through an enterostomy.

In the 2 laparoscopic cases, mean operation time was shorter and the patients required less postoperative analgesia. They were started on diet and discharged from hospital earlier as well. No post op complications were evident in the laparoscopy duo while 3 cases in the open surgery group suffered morbidities of sepsis, aspiration pneumonia and wound infection respectively [Table 2].

Clinically, not all patients presented with clinical and x-ray features of intestinal obstruction. 11 out of 21 patients were incidentally found to have a bezoar during endoscopy. The indications for endoscopy in these 11 patients were varied. 1 had per rectal bleeding, 1 had melena, 1 had dysphagia, and another was being investigated for iron deficient anemia. The remaining 6 had epigastric pain associated with vomiting. These patients did not require operative treatment for removal of the bezoar. The endoscopists on site were able to break the bezoar apart and dredge out the remnant pieces with a snare, allowing the scope to advance. 9 of these 11 cases had gastric bezoar were diagnosed at gastroscopy. The gastric bezoars were fragmented and extracted endoscopically. *[Figures 2 and 3]*

The remaining two patients were found to have bezoars during flexible sigmoidoscopy. One of them was diagnosed with a sigmoid tumour and was found to have a bezoar obstructing the sigmoid lumen at the proximal of end of the tumour during a colonoscopy. The bezoar was broken up endoscopically and removed, allowing the endoscopist to complete the scope.

The other patient complained of abdominal pain and distension on admission. Flexible sigmoidoscopy found food particles and bezoars obstructing passage at the hepatic flexure, resulting in dilatation of the colon all the way to the cecum. The bezoar was subsequently broken up and removed endoscopically as well.

DISCUSSION

Recognized risk factors for developing small bowel obstruction secondary to phytobezoar include previous gastric surgery, incomplete dentition and high fiber intake. Vagotomy and pyloroplasty favoured the formation of bezoars with gastric stasis, disturbed gastric motility and delayed emptying. An edentulous patient may swallow food whole without adequate chewing, contributing to the formation. Fiber may also slow gastric emptying and besides citrus fruit and persimmons, coconuts, berries, green beans, apples, potato peels, legumes and even fiber supplements may constitute the contents of bezoar⁴.

It was noted with interest 68.2% of patients in this study are high fiber consumers. This is surely by no means coincidental. Patients who have incomplete or poor dentition or previous gastric surgery should not be recommended a diet too high in fibre. These patients should be constantly reminded to masticate the food bolus properly before swallowing. Poor dentition should be treated as soon as possible especially in the setting of previous gastric surgery.

It is important to make a preoperative diagnosis of impacted bezoar as minimally invasive techniques of treatment can then be planned. Several studies have proposed the advantage of using CT scan to assist in the diagnosis of bezoar induced small bowel obstruction^{2,5,10}.

We advocate a laparoscopic approach to this uncommon but interesting problem. Management of small bowel obstruction secondary to an impacted bezoar via laparoscopy has been described in previous reports¹¹⁻¹⁴. We have found similar benefits and efficacy thus far in our early experience.

There may also be a role of endoscopically snaring and removing bezoars, especially for bezoars found in the large intestine. For gastric bezoars, there remains the risk of breaking up the gastric bezoar into fragments which may subsequently cause obstruction of the small intestines¹⁵. If the bezoar is small, it can be extracted by direct suction. If the BZ is large and pylorus is normal (no stricture or narrowing), fragmentation can be performed with a snare or dormia basket.

On the other hand, for colonoscopic evacuation of bezoars is relatively less complicated. Administration of antispasmodic agents and small bowel enema can even result in propulsion of terminal ileum bezoars into the colon, which then can be easily removed¹⁶.

CONCLUSION

A triad of previous gastric surgery, poor dentition and high fibre intake in the setting of small bowel obstruction raises the possibility of bezoar impaction. Preoperative diagnosis should be clined in these cases with CT. A laparoscopic approach is safe and feasible in these cases.

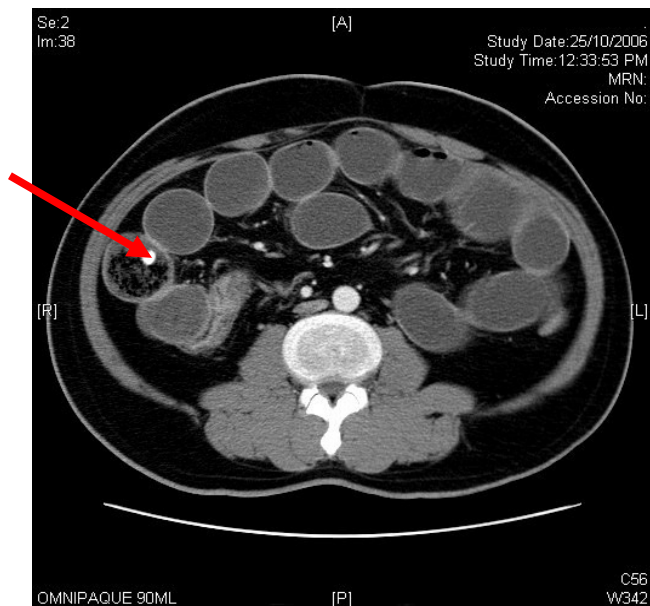


Figure 1: CT scan with arrow showing intraluminal hypodense filling defect/mottled gas pattern.

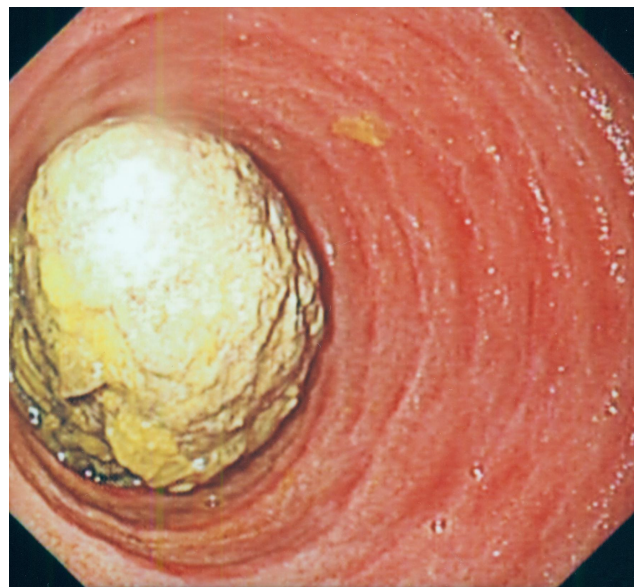


Figure 3: Phytobezoar in duodenum.



Figure 2: Endoscopic fragmentation of gastric bezoar.

<u>Risk factors</u>	<u>n</u>	<u>%</u>
Previous gastric surgery	9	42.9
Truncal Vagotomy	3	14.3
Omental patch repair	3	14.3
Partial gastrectomy	2	9.5
Incomplete teeth	13	62.0
High fiber intake*	15	71.4
*defined as 2 or more servings of high fiber foods per day		

Table 1. Risk Factors for Bezoar Impaction

	<u>Laparoscopy (2)</u>	<u>Laparotomy(8)</u>
Mean operative times (min)	92.5	120
Post Op Analgesia (initial 3 days)		
- IV Morphine(n)	0	7
- IM Pethidine(n)	1	1
- Oral Paracetamol(n)	1	0
Time to start diet, mean (d)	2.5	13.4
Post Op Hospital stay, mean (d)	3.5	15.8
Post Op complications (n)	0	3

Table 2. Operative Outcomes for the 10 out of the 21 patients who underwent operative intervention.

References

- 1 Rubin M, Shimonov M, Grief F, *et al.* Phytobezoar: A Rare Cause of Intestinal Obstruction. *Digestive Surgery* 1998; 15:52-54.
- 2 Ho TW, Koh DC. Small-bowel obstruction secondary to bezoar impaction: a diagnostic dilemma. *World Journal of Surgery* 2007; 31(5):1072-8.
- 3 Yau KK, Siu WT, Law BK, Cheung HY *et al.* Laparoscopic Approach Compared with Conventional Open Approach for Bezoar-Induced Small Bowel Obstruction. *Archives of Surgery* 2005; 140: 972-925.
- 4 Parrish C R. Nutrition Intervention in the Patient with Gastroparesis. *Practical Gastroenterology* 2003; 3: 53-66.
- 5 Teng HC, Nawawi O, Ng KL, Yik YL. Phytobezoar: an unusual cause of intestinal obstruction. *Biomedical Imaging and Intervention Journal* 2005; 1(1): e4.
- 6 Schlang, HA. Acetylcysteine in removal of bezoar. *JAMA* 1970; 214:1329
- 7 Ladas, SD, Triantafyllou, K, Tzathas, C, *et al.* Gastric phytobezoars may be treated by nasogastric Coca-Cola lavage. *European Journal of Gastroenterology and Hepatology* 2002; 14:801.
- 8 Erzurumlu K, Malazgirt Z, Bektas A, *et al.* Gastrointestinal bezoars: A retrospective analysis of 34 cases. *World Journal of Gastroenterology* 2005; 11(12) 1813-1817.
- 9 Ahn YH, Maturu P, Steinheber FU, Goldman JM. Association of diabetes mellitus with gastric bezoar formation. *Archives of Internal Medicine* 1987; 147(3):527-528.
- 10 Ripolles, T, Garcia-Aguayo, J, Martinez, M J, Gil, P. Gastrointestinal bezoars: sonographic and CT characteristics. *American Journal of Roentgenology*. 2001; 177(1):65-69.
- 11 Ganpathi IS, Cheah WK. Laparoscopic-assisted Management of Small Bowel Obstruction due to Phytobezoar. *Surg Laparosc Endosc Percutan Tech* 2005; 15:30–32.
- 12 Kan JY, Huang TJ, Heish JS. Laparoscopy-Assited Management of Jejunal Bezoar Obstruction. *Surg Laparosc Endosc Percutan Tech* 2005; 15:297–298.
- 13 Kirshtein, B, Roy-Shapira, A, Lantsberg, L, Avinoach, E, Mizrahi, S. Laparoscopic management of acute small bowel obstruction. *Surgical Endoscopy* 2005; 19(4): 464-467.
- 14 Liauw JY, Cheah WK. Laparoscopic Management of Acute Small Bowel Obstruction. *Asian Journal of Surgery* 2005; 28(3) 185-188.
- 15 Kenan Erzurumlu, Zafer Malazgirt, Ahmet Bektas, Adem Dervisoglu, Cafer Polat, Gokhan Senyurek, Ibrahim Yetim, Kayhan Ozkan. Gastrointestinal bezoars: A retrospective analysis of 34 cases. *World J Gastroenterol* 2005 March 28;11(12):1813-1817
- 16 Chae HS, Kim SS, Han SW, Lee CD, Choi KY, Chung IS, Sun HS, An CH. Endoscopic removal of a phytobezoar obstruction the small bowel. *Gastrointestinal Endoscopy* 2001; 54: 264-266

☺ **A Note of Thanks to Dr Tan Kok Yang for contributing this article.**

Contribution of any interesting news & articles from Chapter Members are welcome for consideration to publish in this quarterly newsletter. Please send it to the College Secretariat at css@ams.edu.sg.

SPECIAL FEATURE ARTICLE

79th Annual Scientific Congress of the Royal Australasian College of Surgeons 4-7 May 2010, Perth Convention Exhibition Centre, Australia

Authored by: Dr Yong Wei Sean, Department of Surgical Oncology, National Cancer Centre, Singapore

I was given the opportunity to attend the Royal Australasian College of Surgeons (RACS) meeting in Perth as a result of complimentary registration from the Australasian College and under the auspices of the College of Surgeons, Singapore.

The meeting took place from 4th to 7th May 2010 in Perth, Australia. I arrived on the same day as the Fellows convocation, where new members of the RACS having completed their exams are admitted. This is a very formal yet well attended event whereby new Fellows (after the official ceremony) with their families interact with other members and guests from overseas. This was followed by a cocktail reception, indeed a good start to the scientific meeting.

The conference proper started bright and early at 7.00am the next day (and would be so over the next 4 days) with a series of masterclasses for various subspecialties. These are interactive sessions where experts in that particular field would share their experiences with the audience and there would be opportunities for questions and comments. The main part of the meeting consisted of multiple lectures, seminars and plenary sessions run concurrently. Participants would break up into their own specialties and come together again for certain keynote sessions.

I mainly attended the breast sessions which covered topics ranging from breast MRI, oncoplastic and reconstructive surgery for breast cancer, radiotherapy for breast cancer, advancements in treatment of DCIS to neoadjuvant chemotherapy. Both local and international speakers shared on practical surgical aspects, problems faced, basic science and also new developments.

Being a broad based surgical meeting, I took the opportunity to attend other sessions on melanoma, thyroid cancer, trauma and laparoscopy. Sessions unique to this meeting and usually not found in Singapore meetings included topics on women in surgery, rural surgery and military surgery.

There were also many sessions on topics affecting surgeons in general such as leadership role of surgeons, professionalism, training of young doctors, problem doctors and emergency surgery and who should go on-call. Some of the problems faced by the surgeons in Australia are unique to their situation but many of the issues raised were very similar to what we are facing here in Singapore. In fact, the open-to-the floor Q&A sessions were quite lively with many stepping forward to voice their opinion.

In addition to the scientific activities, I was privileged to attend the Breast/Endocrine section dinner where I got to interact with many of the local surgeons and share experiences. I also took the opportunity to walk around the city of Perth and visit the surrounding areas such as Swan valley and Fremantle. In addition, it was a good time to catch up with old friends and former colleagues, some who are working in Australia.

I would like to thank the RACS and also the College of Surgeons, Singapore for this excellent opportunity to attend this conference. Indeed a highly recommended meeting for trainees and surgeons alike as it covers both subspecialty topics and also general surgery issues.

The Chapter thanked Dr Yong Wei Sean for the contribution of his trip report for featuring in this Chapter newsletter.

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News Bulletin

Congratulations from the Chapter to all Exited Advanced Surgical Trainees (ASTs)

The Chapter congratulates the following ASTs who had passed their exit examinations held in 2010:

2010 Joint Specialty Fellowship Examination in General Surgery

A) 8 to 10 March 2010 in Hong Kong

- Dr CHEW Min Hoe from Singapore General Hospital
- Dr Melanie SEAH Dee Wern from Tan Tock Seng Hospital
- Dr GANESH Ramalingam from Alexandra Hospital

B) 13 to 14 August 2010 in Singapore

- Dr LEE Ser Yee from Singapore General Hospital
- Dr LIM Geok Hoon from National University Hospital
- Dr Eugene LIM Kee Wee from Khoo Teck Puat Hospital
- Dr Kevin SNG Kaity from Changi General Hospital
- Dr TAN Choon Chieh from National University Hospital
- Dr Glenn TAN Wei Leong from Tan Tock Seng Hospital

The Chapter looks forward to the joining of these young surgeons into the general surgery cohort as well as joining the Chapter as members and contributing to the Chapter academically and professionally.

Chapter Connection as the Communication Medium

Have academic events and activities that you would like to invite the participation of your fellow peers and colleagues who are also members of the Chapter of General Surgeons? Have news on the latest happenings in the general surgery community to share with fellow surgeons? The Chapter Connection would be the ideal medium to transmit news and information on your behalf, since it is being circulated to all Chapter members and trainees / residents, including Fellows and Registrars.

Please submit your event announcements in MS Word, MS Powerpoint or JPEG format to the College Secretariat at css@ams.edu.sg if you are interested to share them in this newsletter.

Chapter Support for Academic and Professional Events

The Chapter welcomes any event proposals that call for the support of the Chapter either as a nominal sponsor or as an event organiser. The Chapter is happy to collaborate with any Chapter members and/or industry sponsors to work on the proposed event. Event proposal(s) can be submitted to the College Secretariat at css@ams.edu.sg for the Board of the Chapter of General Surgeons' review and discussion.